

Amendments to the Claims:

Please amend the claims as follows. No new matter has been added by way of these amendments. Please cancel claims 1-13.

Listing of the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

14. (Original) A method for determining a conductive tubular correction constant for use in electromagnetic induction tomography in a borehole lined with a conductive tubular, comprising:

generating a magnetic field inside a representative piece of the conductive tubular;

determining a first magnetic field amplitude inside the representative piece of the conductive tubular at a location proximate to a position of the generating the magnetic field;

determining a second magnetic field amplitude outside the representative piece of the conductive tubular; and

deriving the conductive tubular correction constant from a ratio of the first magnetic field amplitude and the second magnetic field amplitude.

15. (Original) The method of claim 14, wherein the representative piece of the conductive tubular is disposed in a medium having substantially zero conductivity.

16. (Original) A method for determining a conductive tubular correction constant for use in electromagnetic induction tomography in a borehole lined with a conductive tubular, comprising:

generating a first magnetic field inside a representative piece of the conductive tubular;

determining an amplitude of a first magnetic field inside the representative piece of the conductive tubular at a location proximate to a position of the generating the first magnetic field;

determining an amplitude of a second magnetic field inside the representative piece of the conductive tubular, the second magnetic field being generated outside the representative piece of the conductive tubular; and

deriving the conductive tubular correction constant from a ratio of the first magnetic field amplitude and the second magnetic field amplitude.

17. (Original) The method of claim 16, wherein the representative piece of the conductive tubular is disposed in a medium having substantially zero conductivity.

18. (Original) A method for determining properties of a geological formation penetrated by at least one borehole lined with a conductive tubular, comprising:

generating a magnetic field inside a representative piece of the conductive tubular;

determining a first magnetic field amplitude inside the representative piece of the conductive tubular at a location proximate to a position of the generating the magnetic field inside the representative piece of the conductive tubular;

determining a second magnetic field amplitude outside the representative piece of the conductive tubular;

deriving a conductive tubular correction constant from a ratio of the first magnetic field amplitude and the second magnetic field amplitude;

generating a magnetic field in the geological formation from within the at least one borehole;

measuring a reference magnetic field amplitude inside the at least one borehole;

measuring a formation magnetic field amplitude at a distance from a position of the generating the magnetic field in the geological formation selected so that the formation magnetic field amplitude is related to the magnetic field strength in the geological formation;

correcting the reference magnetic field amplitude measurement and the formation magnetic field amplitude measurement using the conductive tubular correction constant; and

deriving a formation property from the corrected reference magnetic field amplitude measurement and the corrected formation magnetic field amplitude measurement.

19. (Original) The method of claim 18, wherein the measuring a formation magnetic field amplitude comprises measuring inside the at least one borehole.

20. (Original) The method of claim 18, wherein the selected distance is at least 10 meters.

21. (Original) The method of claim 18, wherein the measuring a formation magnetic field amplitude in the geological formation comprises measuring from a second borehole.

22. (Original) The method of claim 21, further comprising repeating the measuring a formation magnetic field amplitude at a plurality of axial positions along the second borehole.

23. (Original) The method of claim 18, further comprising repeating the generating a magnetic field in the formation at a plurality of axial positions along the at least one borehole.

24. (Original) The method of claim 18, wherein the deriving a formation property comprises at least one of least square inversion and three-dimensional electromagnetic modeling.

25. (Original) The method of claim 18, wherein the formation property comprises resistivity.

26. (Original) The method of claim 18, wherein the generating a magnetic field comprises generating an alternating magnetic field at a selected frequency.

27. (Original) The method of claim 26, wherein the selected frequency is optimized based on geological formation resistivity and a separation between a position of the generating the magnetic field in the geological formation and a position of the measuring the formation magnetic field amplitude.